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AUTHOR Eastmond, Jefferson N.
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ABSTRACT

Project BASICS attempts to answer questions about which of the best reading and mathematics strategies will produce mastery learning for what types of students in terms of their individual characteristics and needs. It focuses on the discovery and implementation of alternative strategies for mastery learning with an innovative school setting. The overall objective is to provide solution strategies for students (K-3) to result in 90 percent of the project students achieving at the same mastery level as the top 20 percent of California students in normal classroom situations. The project seeks to resolve the problem of reading, communications skills, and mathematics deficiencies by using the seven basic steps of the scientific method in its system approach to education planning and problemsolving. This booklet, the second of a series, is devoted to step two: translate needs into problems and constraints. Subsequent booklets deal with the succeeding steps. Described are the steps taken to identify the problems in the South Bay area. These steps are presented graphically and each is treated separately. They are: (1) Compose the problem statement; (2) formulate the mission phase; (3) define performance requirements and constraints, and identify and store methods/means; (4) synthesize the mission; (5) identify enabling policies; and (6) apply the problem definition criteria. (Author/EA)

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BASICS

Defining Critical Needs
into Problems & Constraints

South (S.F.) Bay Area, Calif

1971

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EDUCATION AND RESEARCH
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ED 082305

DEFINING CRITICAL NEEDS INTO PROBLEMS AND CONSTRAINTS
IN THE
SAN FRANCISCO SOUTH BAY AREA OF CALIFORNIA

PROJECT
BASICS
Conducted for

(Bay Area School Innovating Curricula Systematically)

Fremont Unified School District
40775 Fremont Blvd., Fremont, California 94538

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of

Fremont Unified School District
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by

Jefferson N. Eastmond
Worldwide Education and Research Institute
2315 Stringham Avenue
Salt Lake City, Utah 84109

May 1971

FOREWORD

1. INTRODUCTION TO PROJECT BASICS

Which of the best¹ reading and mathematic strategies will produce mastery learning for what types of students in terms of their individual characteristics and needs?

Seeking the answer(s) to this question--which poses a complex, basic educational problem--lies at the heart of Project BASICS. The project focuses upon the discovery and implementation of alternative strategies for mastery learning within an innovative school setting. It seeks a "zero rejects" approach to education that will lead to pupil success in reading, mathematics and communicating.

The most germane model of school learning dealing with mastery learning strategies was developed by Carroll.² Bloom³ supports the Carroll model when he states, "If students are normally distributed with respect to aptitude but the kind and quality of instruction and the amount of time available for learning are made appropriate to the characteristics and needs of each student, the majority of students may be expected to achieve mastery of the subject. And the relationship between aptitude and achievement should approach zero." It is this hypothesis and learning theory upon which Project BASICS is focused.

The need for Project BASICS was reflected in Governor Ronald Reagan's State of the State Message⁴ delivered on January 12, 1971. Referring to his Commission on Educational Reform he stated, "I can tell you of their dismay...over the functional illiteracy evidenced by so many of our high

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1. "Best" means successfully demonstrated with primary students and/or best research findings.
 2. Carroll, John, "A Model of School Learning," Teachers College RECORD, 1963, 64: 723-733.
 3. Bloom, Benjamin, "Learning for Mastery", Evaluation Comment, Center for the Study of Evaluation, UCLA, Vol. 1, No. 2, May, 1968.
 4. Reagan, Governor Ronald, "State of the State Message," January 12, 1971.

school graduates; far too many of these young men and women have failed to acquire the ability to read, to write, to compute, and to communicate. It is not enough to say they have failed; it is more pertinent to ask, 'has the system failed?' and if so, how can it be corrected?"

The need for Project BASICS is further evidenced in the fact that less than 50% of the students in the project's target area are achieving mastery of reading skills at the primary level and less than 60% are achieving mastery in primary mathematics.

The project's mission objective to be achieved and the five procedural objectives to be followed are as follows:

Mission Objective

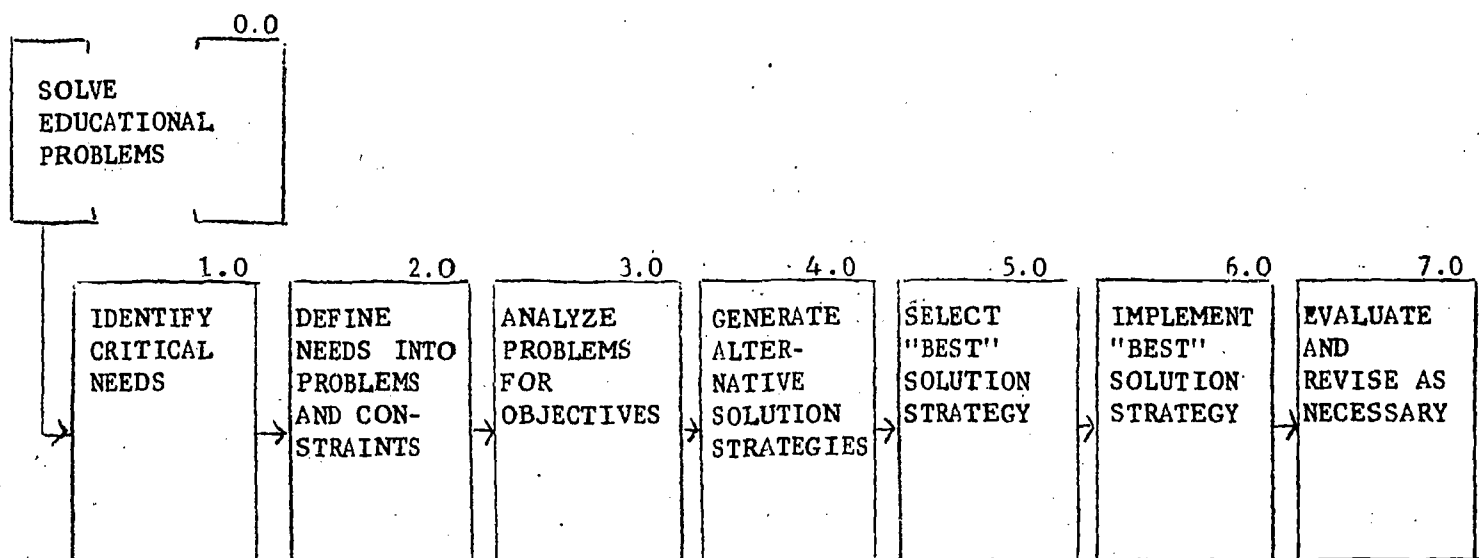
To provide solution strategies for students (normally distributed with respect to aptitude, in grades kindergarten, one, two and three) which will result in a minimum of 90% of the project's students achieving at the same level of mastery as the top 20% of students in normal classroom situations in the State of California at the end of three years of instruction and program implementation. These solution strategies will be implemented and this mission objective will be accomplished at this end of the three year period at a cost no higher than the average instructional cost per student in California schools.

Procedural Objectives

- a. Identify both the exemplary school programs which lead to pupil success in school and the programs that fail to produce success.
- b. Examine the effectiveness of various instructional programs.
- c. Conduct research and experimentation on a clinical basis to seek improved methods of instruction.
- d. Measure the potential for self-sustained learning among pupils of varying aptitudes and characteristics.
- e. Discover ways to improve instruction in reading and communicating, and mathematics and creative problem solving.

PROCEDURE OF PROJECT BASICS

The obvious deficiencies of pupils in reading, the communication skills, and mathematics is recognized as a significant educational problem. Project BASICS seeks to resolve this problem by the best possible method--the scientific method. In essence, the project will use this underlying method in its "system approach to educational planning and problem solving." This consists of the seven basic steps of the scientific method which can be graphically shown as follows:



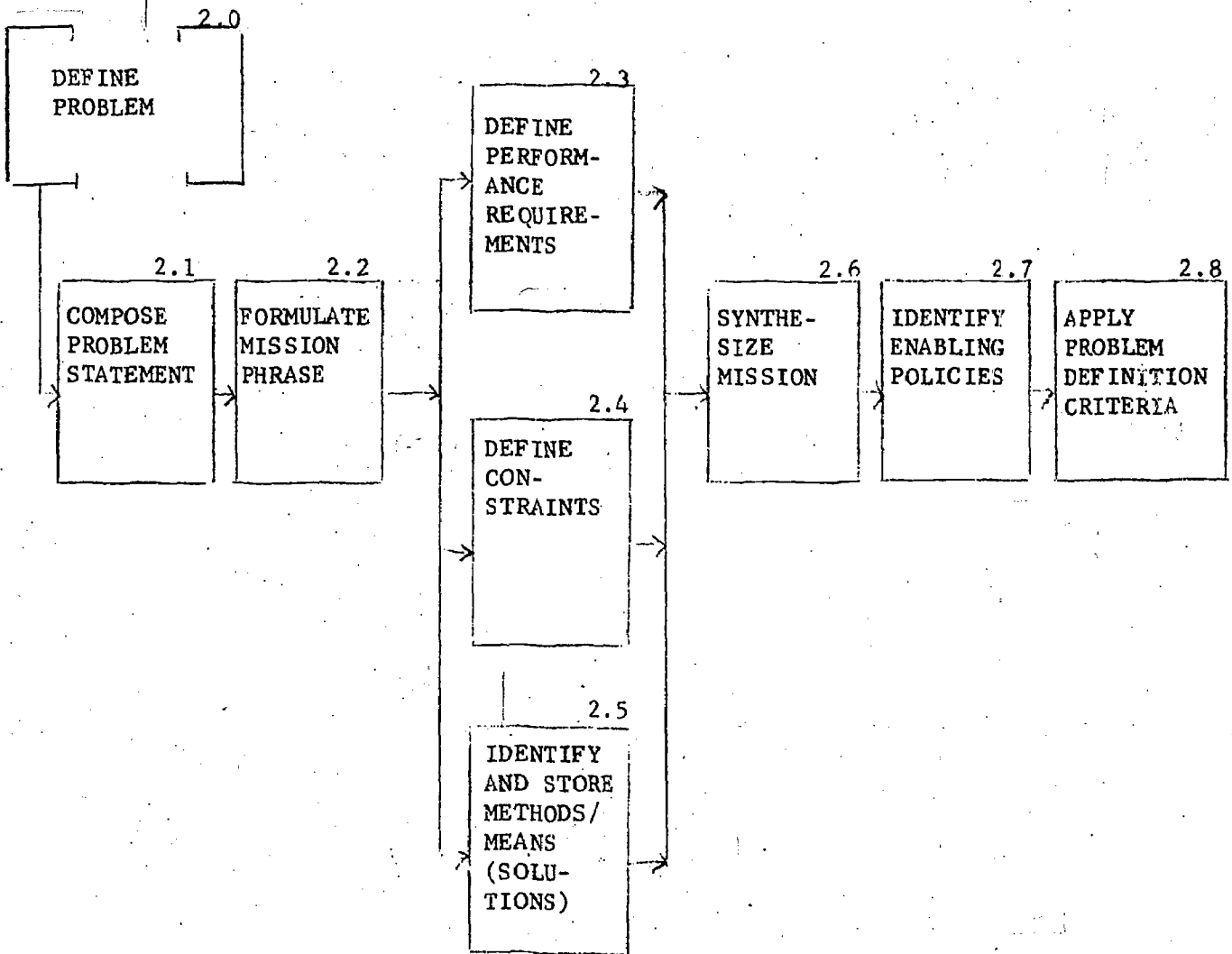
In keeping with the foregoing diagram or model of the scientific method, this booklet is devoted to the second step (Box 2.0). Subsequent booklets published by the project will deal with the succeeding steps.

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I. PROBLEM DEFINITION: TECHNIQUE AND GUIDELINES

Defining a problem consists of eight separate steps. These steps are shown in sequential relationship in the following flowchart:



Please note carefully each of the foregoing steps as they provide part of the criteria for a well-defined problem. A brief description of each of the steps in the flowchart is presented in the following paragraphs.

2.1 COMPOSE PROBLEM STATEMENT. This is done by rephrasing the need statement into a question. It should not be in the form that can be answered by a "yes" or "no." Instead, it should be the type of question that leads to an evaluation of a wide range of possibilities for its ultimate solution. The problem statement should be expressed in from 5 to 20 words and should be written in situational or impersonal style.

2.2 FORMULATE MISSION PHRASE. Closely akin to the preliminary statement of the problem is the mission statement. This is simply a brief, prose phrase that tells in a half-dozen words or less, what is to be done. It is objective oriented and usually contains an action verb with an appropriate noun and essential adjectives.

The mission statement aids in communication. It can be used as a reference to an entire problem and serves a useful purpose in flow-charts or modeling the problem graphically. Examples of mission statements for the preliminary problems stated above are:

Define principal's role.

Formulate a five-year plan.

Define problem-solving procedure.

2.3 DEFINING PERFORMANCE REQUIREMENT. As one defines the performance requirements of a problem, he is essentially describing the evidence of the accomplishment to be made in carrying out the mission. In short, the description must be provided to show what evidences can be looked for to determine whether the mission has succeeded or failed. Moreover, there must be an identification of the criteria or viewpoints to be used in making such judgments.

With experience, one learns that the definition of performance requirements is a crucially important aspect of the entire problem-solving process. Such definitions involve a description of all specifications, conditions, situations, and measurable criteria that will be used to judge the terminal fruits of the total process.

These requirements will describe the end-product of the mission. That is, they will tell what it will look like, or what it will do.

For maximum usefulness, the performance requirements should be stated in terms that allow for a careful objective measurement. Otherwise, it is difficult to determine whether the objectives or mission intent has been fully achieved. Stating such outcomes in education, particularly as they involve some of the most subtle abilities and attitudes of pupils, represents a sizeable challenge.

As a kind of guideline, the following considerations can be given to the performance requirements that are defined:

Do they describe in measurable terms the evidence which will be accepted as showing that the mission has been accomplished?

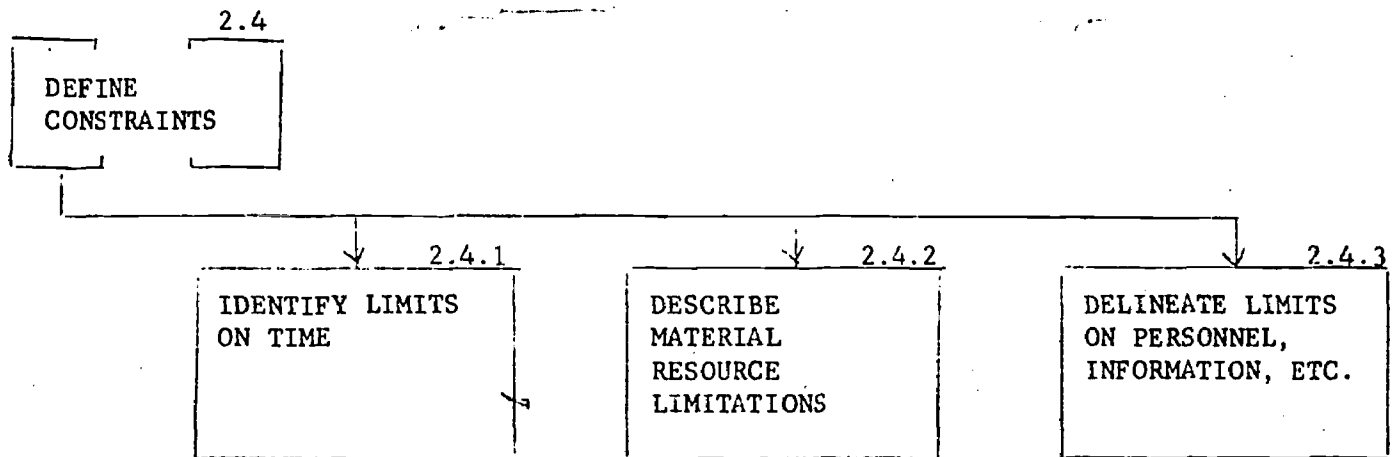
Do they describe the environmental conditions under which the desired end-product is to be demonstrated or assessed?

Do they define the minimum acceptable criteria for demonstrating terminal performance?

- 2.4 DEFINING CONSTRAINTS. In defining a problem it is initially helpful to begin compiling the constraints. Constraints may be thought of as restrictions or limits within which the problem-solving procedure must be operated or within which the system must operate. Some of the obvious limitations or constraints in virtually any problem consist of available finance, space, personnel, time, information, etc.

Identifying constraints also comes about through a series of questions. Once again, the process of inquiry tends to sharpen the problem definition as well as expand the perspective of those defining it.

Defining constraints can be noted in flowchart form as follows:



2.5 IDENTIFYING AND STORING METHODS/MEANS. In the process of defining the problem, a number of solutions will be volunteered or will emerge from the various elements as they are described and suggested.

While not a part of the actual problem definition, it is advantageous to collect and store any alternative solutions proposed for the problem or for any of its constituent parts. It thus becomes desirable to create a kind of "solution bank" wherein these suggested alternative solutions are carefully coded and stored.

In the problem-defining process, as solutions are volunteered, it is important that the group, as well as the group leader, defer judgment on the worth of these solutions, and store in the solution bank. These solutions may become extremely valuable at a later phase of the problem-solving process. Moreover, it must be acknowledged that the starting point of defining the problem is perhaps richest in solution possibilities as far as overall alternative strategies are concerned. As the analysis and subsequent phases proceed, solutions will tend to be offered that are pertinent only to pieces of the overall problem.

Because of the rich possibilities for solutions at this early stage of definitions, some deliberate effort should be made to extract possible alternative solution strategies. That is, after the problem

is put into words, it is desirable to list the various feasible courses of action that seem possible and which have not, as yet, emerged from the problem-definition activities.

- 2.6 SYNTHESIZE MISSION OBJECTIVE. One must now attempt to summarize the mission, constraints, and performance requirements into a coherent totality. Once those defining requirements have been identified, the next step is to try and write what is called the mission objective.

The process to be followed in writing the mission objective is a fundamental one in creative problem-solving. It is referred to as iteration. This entails a kind of circular process where a definition is made in preliminary form and it is refined against some criteria to see that it is adequate and redefined until it is in a completely acceptable form.

Writing the mission objective entails a synthesis into one or two paragraphs, a description of all the elements of the mission, constraints, and performance requirements.

- 2.7 IDENTIFY ENABLING POLICIES. If the expenditure of time or money is to be made by an institution, it is usually mandatory that the policy-making body give its authorization. As a prudential step, this should be cited on the work form in the appropriate place.
- 2.8 APPLY PROBLEM DEFINITION CRITERIA. It is appropriate to review your problem definition at this time to see if it meets certain standards. A checklist is provided on the next page for you to use in reviewing the problem as you have defined it. Make whatever improvements are called for in the checklist.

CHECKLIST OF CRITERIA FOR ADEQUACY OF PROBLEM DEFINITION

A. Product Criteria: Constituent Parts.

1. Brief prose statement of problem in question form
2. Summary of values associated with problem (need)
3. Description of present condition (present facts)
4. Projection of problem determinants (future facts)
5. Identification of present (or needed) policies
6. Relationship to enabling district objectives
7. Brief statement of action intended (mission)
8. Identification of limiting conditions (constraints)
9. Criterion evidence of successful accomplishments (performance requirements)
10. Summary of total job to be done (mission objective)
11. Identification of solutions (solution bank)

B. Product Criteria: Qualitative and Quantitative Elements.

1. Clarity and Precision
 - a. It must communicate
 - b. It must contain the basis for evaluation
 - c. It must identify all essential criteria
 - d. It must give emphasis to the major focus or intent
 - e. It must be expressed in action or operational
2. Completeness
 - a. What?
 - b. Where?
 - c. When?
 - d. Who? (for whom - who responsible: NOT who will do it if it implies solution)
 - e. How much?
 - f. Why? (values and facts in need assessment)
3. Evidence of testing for -
 - a. Accuracy
 - b. Validity
 - c. Feasibility
 - d. Criticality
4. Cohesiveness - do parts fit together?

C. Process Criteria: (How problem was defined).

1. Persons defining problem will carry it through (Built-in equity and commitment)
2. Range of elements considered (Scope of topics in need assessment)
3. Range of persons or organizations participating (spectrum of harvested concerns)

II. PROBLEMS DEFINED IN THE BASIC SKILLS

Problems in the basic skills were defined for the areas of reading, computation, and communication proficiency, as follows:

The learner needs to acquire the proper skills, information, and positive attitude for proficient reading.

The learner needs to acquire computation skills in each grade level in order to operate in life situations.

The learner needs to acquire proficiency in communication skills and positive attitudes toward interacting with others.

Reading and computation problems were deemed "extremely critical." Target time for resolution of the problems were set at 1974 for reading and communication, and at 1975 for computation proficiency.

PROBLEM DEFINITION: READING PROFICIENCY

Need Statement:

The learner needs to acquire the proper skills, information, and positive attitude for proficient reading.

Problem Statement:

How can we improve the skills, attitudes, and proficiencies to raise the reading achievement of students not achieving to potential?

Mission:

Improve reading achievement commensurate with ability.

Constraints:

1. No more funds are to be spent than the commensurate share of regular budget and special project funds.
2. The mission should be achieved prior to June 30, 1974.
3. Skills in other areas must be maintained or improved as measured by SAT.

Performance Requirements:

1. To provide in an innovative school setting at least three different reading solution strategies for students, normally distributed with respect to aptitude, in grades kindergarten, one, two and three, at least one of which will result in a minimum of 90% of the project's students achieving at the same level of mastery as the top 20% of students in normal classroom situations in the State of California at the end of three years of instruction and program implementation.
2. By June 1973, 90% of all students in the school since its opening must be reading at a level commensurate with ability* as measured on Stanford Achievement Test compared with I.Q. and S.E.S., etc.
3. Attitudes toward reading must be maintained or improved as measured by number of library books checked out per month, teacher judgment, and the student's expressed opinion about reading.

* (Definition: Achievement commensurate with ability = ± 3 standard deviations from calculated pupil expectancy.)

4. While reading achievement is improved, there must be no decline in the achievement of pupils in other subjects or skills (achievement test average will remain the same or be improved.)

Mission Objective:

Prior to June 30, 1974 and at a cost not to exceed the commensurate share for reading within the total school program, the reading achievement of 90% of the pupils in the first three grades of the experimental school will be at the same level of mastery as the top 20% of students in normal classroom situations of California. While this is being achieved, attitudes toward reading will remain positive and there will be no measurable decline in the expected achievement of pupils in other subjects or skills.

PROBLEM DEFINITION: COMPUTATIONAL PROFICIENCY

Need Statement:

The learner needs to acquire computation skills in each grade level in order to operate in actual life situations.

Problem Statement:

How can we improve the computational skills in the experimental elementary school?

Mission:

Develop computational skills.

Constraints:

1. Not more than a commensurate share of the regular budget and special project funds will be spent on mathematics.
2. The mission should be achieved prior to June 1974.
3. Skills in other areas must be maintained or improved as measured by standardized achievement tests.

Performance Requirements:

1. By June 1974, 90% of all elementary students will achieve according to national norms for their grade level or above.
2. By June 1974, 90% of elementary students will maintain reasoning skills at or above national norms on a standardized achievement test.
3. Skills will be set up in terms of behavioral objectives and pupils will achieve at 90% proficiency before moving on to another objective.
4. Review tests will be given every three months to check proficiency of objectives mastered previously.
5. Mathematical games will be available and children will check them out and use them independently. Teachers will record individual pupil achievement.
6. These requirements of improvement will pertain to all students who are in this school during the three-year period.
7. Teachers will establish check points every three months to maintain proficiency of past skills learned; 80% will have maintained established criteria.

Mission Objective:

By June 1974, 90% of the children in grades K-6 will be up to or above national norms as measured by standardized achievement tests, and will maintain reasoning skills at or above the national norms. Computational skills will be set forth in behavioral objective terms and the student will show 90% proficiency before moving to another behavioral objective. Review tests will be given every three months to show continued proficiency of objectives mastered previously.

Computational skills are to be developed over a three-year period and a pre-test and post-test program will enable the directors and teachers to establish goals and teaching objectives to complete the skills and performance requirements. At three-month periods, informal achievement tests will be given to insure progress of each child in computational skills and to give assurance that students have not declined in achievement in other skills. At the end of the three-year period, 90% of students will achieve at least national norms for their grade level.

PROBLEM DEFINITION: COMMUNICATION PROFICIENCY

Need Statement:

The learner needs to acquire proficiency in communication skills and positive attitudes toward interacting with others.

Problem Statement:

How can learners' communication skills be improved?

Mission:

Improve communication skills.

Constraints:

1. Not more than a commensurate share of the regular budget and special project funds will be expended.
2. The mission must be accomplished prior to June, 1974.
3. Identify the students whose communication levels must be improved (based on test information) by November 1, 1971.

Performance Requirements:

1. At least 95% of the children will demonstrate listening skills to the extent that repetition is not consistently needed. They will hear and react to a statement without repeating it.
2. At least 90% of the learners will be able to express themselves clearly in writing and orally.
3. At least 90% of the learners will be reading at appropriate level for their age and potential, as determined by standardized tests and I.Q. scores.
4. The students who are below minimum acceptable standards must be identified by November 1, 1971, and they must meet the above stated requirements by June 30, 1974.

Mission Objective:

In the experimental elementary school, children who need improvement in communication skills (below their appropriate level for age and potential) must be identified by November 1, 1971. By June 30, 1974, 90% of these identified children should demonstrate listening skills to the extent that repetition is not consistently needed and 90% of them should be able

to express themselves clearly both orally and in writing, and 90% should be reading at a level commensurate to their potential and age. This must be accomplished using only a proportionately fair share of the school budget for development of programs to improve communication skills.

Solutions Volunteered:

1. Summer sessions devoted to improving communication skills among the students.
2. Hire speech experts to improve listening and expression skills.
3. In-service programs to learn about and develop new ways of teaching writing and speaking skills.
4. Purchase of audio-visual aids which have proven effective in improving communication skills.

III. PROBLEMS DEFINED FOR INTELLECTUAL AND SOCIAL SKILLS

Problems involving social and intellectual skills were defined in the areas of critical thinking, social relationships, and problem solving, as follows:

Learners need to be able to think critically regarding the merits of their own work and educational progress.

The learner needs to acquire social skills that will enable him to establish a good social relationship between himself and his peers and between himself and his teacher.

Learners need to have mature expertise, such as specialized psychological and counseling services, readily available to help them solve their problems.

Critical thinking and problem solving were deemed "extremely critical." Target times for resolution of the problems were set at 1973 for improvement of social relationships, and 1974 for critical thinking and problem solving.

PROBLEM DEFINITION: CRITICAL THINKING

Need Statement:

Learners need to be able to think critically regarding the merits of their own work and educational progress.

Problem Statement:

How can learners develop the ability to think critically in problem-solving situations?

Mission:

Improve critical thinking.

Constraints:

1. Not more than a proportional and equitable share of the school budget will be spent, based on faculty decision.
2. Mission should be achieved by June 30, 1974.
3. No additional staff members should be hired to achieve the mission.
4. Skills in all other areas must be maintained or improved as measured by standardized achievement tests.
5. Program must not require additional facilities.
6. Program will operate in all grades.

Performance Requirements:

1. By June 30, 1974, 85% of the students (1-6) will score above the lower quartile on a standardized test of critical thinking.
2. Not less than 85% of the students (1-6) will be able to evaluate, apply, comprehend, and analyze their own work critically.
(Independent audit on sample of all schools.)
3. At least 90% of the learners will be able to cite evidence gained through the analysis of an issue and support their conclusions, based on this evidence as judged by teachers using a standardized rating scale.
4. To demonstrate a positive attitude toward critical thinking, not less than 70% of the students will score in the upper two quartiles as measured by a test of at least 60 items on attitudinal scale developed by the district.

5. Not less than 60% of all students will illustrate ability to solve real-life problems by a 15% reduction in problematic visits to counselors and teachers.

Mission Objective:

By June 30, 1974, with a cost not to exceed the proportionate share of the normal budget, without employing additional personnel, and showing no reduction in other skill areas, at least 85% of the students in grades 1-6 will score above the lower quartile on a critical thinking test and exhibit critical thinking skills on their own work as measured by an independent audit. Not less than 90% of the students will cite evidence of critical thinking in drawing conclusions in real-life situations as measured by rating scale and a positive attitude will be developed in at least 70% of students toward critical thinking.

PROBLEM DEFINITION: SOCIAL RELATIONSHIPS

Need Statement:

The learner needs to acquire social skills that will enable him to establish a good social relationship between himself and his peers and between himself and his teacher. The learner needs to develop and acquire skills that will enable him to function as a contributing member of his group and with his teachers.

Problem Statement:

How can an individual develop social skills in order to establish good relationships with teachers and peers?

Mission:

Develop effective social skills.

Constraints:

1. Resolved prior to July 1, 1973.
2. Costs not to exceed equitable proportion of the school budget, as per faculty decision.
3. Conventionally trained school personnel.
4. Community oriented to "basic" education only.
5. Disadvantaged, ethnic, and social community conditions.

Performance Requirements:

1. All students will make at least one audible contribution in the classroom discussion at least once each week after the first four months of the project's initiation.
2. At least 90% of the students will demonstrate their ability to respect each other by word and interaction, at least in the classroom, as determined by the teacher. (independent observers)
3. At least 90% of the students will demonstrate a positive attitude on the playground by playing together as evidenced by teacher observation and few "arguments."

PROBLEM DEFINITION: ASSISTANCE IN SOLVING PROBLEMS

Need Statement:

Learners need to have mature expertise, such as specialized psychological and counseling services, readily available to help them solve their problems.

Problem Statement:

How can psychological and counseling services be provided to improve the learning level of students?

Mission:

Provide problem-solving assistance.

Constraints:

1. Mission must be completed prior to June 30, 1974.
2. Effort must not cost more than a commensurate share of the school budget and special project funds as determined by the faculty.
3. Improvement: Skills in all areas must show improvement as measured by standardized achievement tests.
4. Personnel limit: One counselor and one psychologist for each 600 students, or for the school.

Performance Requirements:

1. By June 1973, 90% of the students will show achievement gains as predicted according to individual abilities. (counselor forecasts)
2. Based on standardized tests gain of 25% should be made for the school year 1971-72. Additional gain of 15% should be made at the end of school year 1972-73.
3. 80% of the students will reach at least their grade achievement level in reading, math, English, and spelling by June, 1973.
4. A poll of students will show that more than 90% believe counseling service is good and is readily available for their use.
5. A progress report conference will be held by the teacher with the parent of each student at the end of each nine weeks. Such conferences will be used to explain the progress of the student and requesting feedback from the parent. (determined by an audit)

Mission Objective:

To improve attitudes and learning levels of students and to improve the self-image of emotionally disturbed students, within the time and cost limits stated and at the level of performance stated.

Solutions Volunteered:

1. Explain problem and objectives to prospective counselors and psychologists who are interviewed and hired for this job.

IV. PROBLEMS DEFINED FOR SELF-ACTIVATION, AND SELF-CONTROL

Problems of self-activation and self-control were defined in the areas of assuming responsibility for one's own learning, recognition of the value of learning, and improving self-discipline and increasing motivation, as follows:

The learner needs to assume responsibility for his own learning.

The learner needs to acquire a positive attitude toward learning and recognize the value of education and what it can accomplish for him and others.

The learner needs to assume responsibility for self-discipline and to be able to control his actions in a variety of situations.

The learner needs to be motivated to work without pressure in classes that are interesting and challenging.

The areas of responsibility for own learning, value of learning, and self-discipline were deemed "extremely critical." Target times for resolution of problems were set at 1974.

PROBLEM DEFINITION: ASSUME RESPONSIBILITY FOR LEARNING

Need Statement:

The learner needs to assume responsibility for his own learning.

Problem Statement:

How can the student learn to accept responsibility for his own learning?

Mission:

Pupils assume responsibility for own learning.

Constraints:

1. Time not to be taken from fundamentals. Normal level of achievement maintained in other areas.
2. Some principals and teachers will not allow responsible students to act on their own.
3. Physical facilities limit independent action.
4. Completion of solution-implementation by June, 1974.
5. No new teachers may be hired for this project.
6. Not more than commensurate share of regular budget and special project funds, as determined by faculty decision.

Performance Requirements:

1. At least 90% of the students will display a positive attitude about learning as evidenced by an acceptable attitudinal questionnaire.
2. At least 70% of all students will read at least 50% more library books. Students will increase use of library facilities by increasing library book borrowing by at least 40%.
3. Teacher polls will indicate that at least 50% of the students show a high degree of self-motivation, ability to use free time, and individuality in thinking.
4. While students display more self-motivation for learning, achievement in fundamental skills will remain the same or increase as measured on standardized achievement tests.
5. School absences will decrease by at least 25% from current absentee rate.
6. At least 80% of the students will have planned and carried out a plan of a weekly objective. (determined by a poll of teachers)

7. There will be at least a 10% increase in voluntary scholastic activities according to teacher poll.

Mission Objective:

Students shall grow in responsible actions as measured by their demonstrated ability to plan, carry out these plans, and voluntarily enter into group and individual projects. To accomplish this, the school will develop a curriculum and instructional methods that will significantly improve students' attitudes about learning, increase self-motivation as evidenced by more positive attitudes by students and teachers, lower absenteeism, and more self-actualizing study. This objective must be reached within three years and within the allowable budget.

PROBLEM DEFINITION: VALUE OF LEARNING

Need Statement:

Learners need to recognize the value of learning and what can be accomplished through learning for himself and for others.

Problem Statement:

How can learners be assisted in acquiring a positive attitude toward the value of education?

Mission:

Learners acquire positive attitude toward education.

Constraints:

1. The mission should be achieved within three years--before June 30, 1974.
2. Not more than a commensurate share of the regular school budget and special project funds are to be devoted to this mission, as determined by faculty decision.
3. Involve only grades K-3.

Performance Requirements:

1. As measured by attitudinal survey, 90% of all students indicate a positive attitude toward education.
2. As indicated by teachers on an inventory of students, 90% of the pupils have a positive attitude toward education.
3. Personal interviews held with students indicate a positive attitude toward education on the part of 90% of the students.
4. Subjective evaluation of students' attitudes toward education made by teachers indicate at least 90% have positive attitude.
5. Students indicate a desire to continue their education as indicated on personal preference inventory.
6. Using student recorders, in informal discussions involving students only, 90% of the students will indicate a positive attitude toward education.

Mission Objective

Within a period of three years, 90% of all students in grades 1-3 will have a positive attitude toward the value of education. The evidence of

this attitude will be exhibited through personal interviews, surveys and inventories taken of the students, attendance records, teachers' ratings of attitudes, and students' evaluation of the attitude of their peers while involved in informal discussions.

Solutions Volunteered:

Students moved out into community to observe need for education and how education will be of benefit.

Bring in dropouts who have had a "change of heart" since leaving school to reinforce the value of education.

Hold a job-interest inventory to identify the fields of employment students are interested in, then bring in persons from these categories to emphasize the value of education within their specific occupation or profession.

PROBLEM DEFINITION: SELF-DISCIPLINE AND CONTROL

Need Statement:

The learner needs to assume a responsibility for self-discipline and to be able to control his actions in a variety of situations.

Problem Statement:

How can a learner acquire the ability to control his own actions under a variety of situations?

Mission:

Improve self-control.

Constraints:

1. The grade levels shall be 1-6, with emphasis on K-3.
2. Not more than commensurate share of regular budget and special project funds are to be expended, as determined by faculty decision.
3. Time limitation, three years--goal to be reached by June 30, 1974.

Performance Requirements:

1. In a classroom situation with the absence of direct teacher supervision, more than 95% of the students will be able to work independently without disturbing or interfering with fellow students for a period of not less than 20 minutes.
2. At the end of one year, the crime and delinquency rate among the students in grades K-3 shall show some decline, according to police records.
3. Destruction of school property by students in grades K-3 shall show a decrease by not less than 75% at the end of one year.
4. 95% of all students in grades K-3 shall demonstrate their self-control by their positive attitudes with respect toward school property and school personnel.

Mission Objective:

Prior to June 30, 1974, and without proportionately more expenditures, at least 95% of the students in grades K-3 will demonstrate a positive responsibility for their conduct by being able to work independently for

not less than 20 minutes without disrupting fellow students. Other evidence of this will be seen in a reduced crime rate among age group, a reduced destruction of school property by 75% in one year, and a show of respect for school property and personnel.

PROBLEM DEFINITION: MOTIVATED - CHALLENGED

Need Statement:

Learner needs to be motivated, interested, and challenged.

Problem Statement:

How can we improve or increase the opportunities for students to be motivated, interested, and challenged so they may reach a higher level of achievement during their formative years of education?

Mission:

Improve learner motivation.

Constraints:

1. Implement in grades K-6.
2. Not more than commensurate share of regular budget and special project funds.
3. Complete by June 30, 1974.
4. Emphasis on "fundamentals."

Performance Requirements:

1. Not less than 60% of the students will make marked and consistent improvement in achievement records in all subjects by June 30, 1974.
2. A positive attitude toward school will be apparent among 95% of the students as measured by teacher and counselor survey.
3. The dropout rate of all students in school will be reduced to only 5%.
4. By June of 1973, 70% of the teachers will have participated in one or more inservice or summer workshops for the purpose of upgrading their teaching techniques, skills, etc. and keeping informed on current developments.

Mission Objectives:

By June 30, 1974, at least 60% of all students will have demonstrated increased achievement in all subject areas. Student attitudes toward all subject areas will have shown a marked improvement by the end of the third year, through more involved participation. Teacher attitudes and participation in workshops, etc. in their respective subject areas will have markedly improved, with at least 70% participating.

V. PROBLEMS DEFINED FOR PUPIL SECURITY AND SELF-ESTEEM

Problems for pupil security and self-esteem were defined in the areas of self-image, being loved and esteemed by parents, and parents' caring and being aware of school curriculum and child development, as follows:

The learner needs to develop a positive assessment of himself.

The learner needs to be loved, esteemed, guided, and helped by his parents and teachers.

The learner needs parents who are aware of the school curriculum and show interest and care in the development of their children.

The area of improving self-image was deemed "extremely critical." Target times for this area and that of the student being loved and esteemed by parents were set at 1973; parents who care, at 1974.

PROBLEM DEFINITION: POSITIVE SELF-IMAGE

Need Statement:

The learner needs to develop a positive self-concept.

Problem Statement:

How can schools improve the self-image of students?

Mission:

Improve self-image of students.

Constraints:

1. Not more than commensurate share of regular budget and special project funds, as determined by faculty decision.
2. Mission to be accomplished not later than July 30, 1973.
3. General level of academic achievement to remain constant or improve.

Performance Requirements:

1. Prior to June 30, 1973, at least 98% of all students enrolled in grades K-3 will demonstrate positive attitudes toward themselves and toward their teachers, as measured by student poll and standardized instruments.
2. Absenteeism in grades K-3 will be 50% less than the city-wide average by June 30, 1973, as measured by comparison of school attendance records.
3. By July 30, 1973, not less than 98% of all K-3 students will show normal personality development, as measured by selected, appropriate standardized personality test.
4. Discipline problems will be 50% less than city-wide average for the same grades by June 30, 1973, as measured by a comparison of school records.
5. By June 30, 1973, teacher/pupil interaction will be significantly greater than in a sample of comparable grades within the city, as measured on a sampling by the Flanders Interaction Analysis Test.

Mission Objective:

By July 30, 1972, at a cost not to exceed the normal per pupil expenditures, and without lowering general academic achievement, 98% of all students enrolled in grades K-3 in Project BASICS will demonstrate

positive attitudes toward their teachers and show normal personality development; they will also show 50% less absenteeism and discipline problems than comparable students in other schools in the city.

Solutions Volunteered:

1. Voluntary staff who have passed teacher personality inventory.

PROBLEM DEFINITION: LOVED AND ESTEEMED

Need Statement:

The learner needs to be loved, esteemed, guided, and helped by his parents and teachers.

Problem Statement:

How can learners come to feel more loved and esteemed by parents and teachers?

Mission:

Students feel loved and esteemed.

Constraints:

1. Not more than commensurate share of regular budget and special project funds are to be expended, as determined by faculty decision.
2. The mission should be achieved prior to July 1, 1974.
3. How to obtain information on parents? Availability for conferences.
4. How to obtain personnel to contact parents?
5. How to obtain babysitter services for parents while meeting?
6. Resistance of teachers to change.
7. Unknown amount of money is available for developing this type of program.
8. Student resistance to certain teachers.
9. Extremely difficult to measure personality change.
10. Limited time available for inservice training.
11. Student resistance.

Performance Requirements:

1. At least 95% of the students in K-3 will indicate a growth in self-concept as measured on a standardized instrument.
2. Not less than 95% of the students in K-3 will be viewed by teachers as being loved and esteemed on a written questionnaire.

Mission Objectives:

To improve parents' concern for learners in a project for K-3 youngsters to be completed by June 1, 1974.

It will help parents to show esteem and love and guide youngsters in the learning process.

Suggested Solutions:

Develop a Center for parents to contact for help with problems.

PROBLEM DEFINITION: PARENTS WITH INTEREST AND CARE

Need Statement:

The learner needs parents who care and who are aware of the school curriculum and of principles of care and development of children.

Problem Statement:

How can we assist parents to become aware of the elementary curriculum and to become interested in the care and development of children?

Mission:

Assist parents in learning about schools and children.

Constraints:

1. Mission must be accomplished prior to July 1, 1974.
2. Only proportionate share of school budget may be expended, as per faculty decision.
3. The prevalence of working parents, single-parent families, etc.
4. The lack of transportation - with great distances.
5. The lack of interested parents.
6. The lack of personnel to work with parents.

Performance Requirements:

1. At least 80% of the parents have been enrolled in an adult education program. (external audit)
2. School PTA has a planned program of work incorporating the school's mission, curriculum, child development, etc. (audit)
3. Not less than 50% of parents are providing books, magazine and learning experiences which complement the school curriculum of their child. (audit)
4. At least 75% of the children are able to relate orally three or more positive parent-child experiences during the first year of school.
5. Senior high students in the system will be given an opportunity to enroll in preparation for marriage and parenthood classes by September 1972 and at least 50% of the high school seniors will be enrolled in such classes by September 1973.

Mission Objective:

In order to assist parents to understand the importance of parent-child relations, to know how children learn, how health affects learning and how the schools function, at least 80% of the parents of students will be enrolled in formal or informal classes by the first year, a PTA will be formed the first year which has a planned focus and at least 50% of the parents are actively participating and the school system will have developed curriculum offerings for high school students for preparation for family living, enrolling 50% of the seniors by the end of the school year, 1973.

VI. PROBLEMS DEFINED FOR KNOWLEDGE ACQUISITION
AND A READINESS FOR LEARNING

Problems for knowledge acquisition and a readiness for learning were defined in the areas of environment, status and progress, and kindergarten readiness, as follows:

The learner should know his own environment and be able to adapt to changes within it.

The learner needs to know where he stands, his progress, and his direction.

The learner needs certain readiness skills upon entering kindergarten.

All the problems defined were deemed "extremely critical." Target times for resolution of environment, kindergarten readiness, and status and progress were set at 1974.

PROBLEM DEFINITION: KNOWLEDGE OF ENVIRONMENT WITH ADAPTABILITY

Need Statement:

The learner needs to know his own environment and be able to adapt to changes within it.

Problem Statement:

How can we improve the students' knowledge of his environment, and how can we help the student learn to change within the environment?

Mission:

Improve pupil's environmental knowledge and adaptability.

Constraints:

1. Emphasis on grades K-3.
2. Mission must be reached by June 30, 1974.
3. No more than two consultants will be employed to train present teachers.
4. No more than commensurate share of regular budget and special project funds can be expended, as determined by the faculty.

Performance Requirements:

1. By June 30, 1973, students will have developed such respect for classroom and schoolyard environment that teachers and custodians report (when surveyed) that 95% of trash has been self-deposited in proper receptacles.
2. Transfer students in grades 1-3 will (by June 30, 1974) be reported by teachers and school psychologist to have adjusted emotionally to the new school environment within two weeks.
3. By November 1, 1973, kindergarten students will be reported by teachers and school psychologist to be adequately adjusted to school environment after one month attendance.
4. By June 30, 1974, at least 90% of students in grades 4-6 will be able to correctly identify 45 out of 50 environmental and conservation problems or practices in a written exercise.
5. When surveyed, 80% of all students in the school state that they refrained from littering en route to and from school and when on vacations or engaged in recreational activities.

6. When given a test on space, air, water, and land, at least 80% of the students will average 80% or better on the test.
7. At least 85% of the students are able to list 15-20 items correctly which identify social mores of the people of their community.
8. Not less than 90% of the K-3 students can identify three ways that aid them in getting along with others.

Mission Objective:

To improve the knowledge of K-3 students in physical and social environmental aspects with an expenditure of not more than a commensurate share of the school budget available for teachers, instructional materials and facilities. The minimum level of knowledge or proficiency for each grade level will be 80/80. Eighty percent of students averaging 80% on 9 weeks' grades.

PROBLEM DEFINITION: KNOWLEDGE OF STATUS AND PROGRESS

Need Statement:

The learner needs to know continually where he stands, his progress, and his direction.

Problem Statement:

How can we help the learner to understand continually where he stands, what his progress has been, and the direction he is headed?

Mission:

Assist students in self-evaluation.

Constraints:

1. Experimental school - no traditions.
2. Not more than commensurate share of regular budget and special project funds.
3. Community oriented to traditional school.
4. Mission will be achieved by June 30, 1974.
5. Fundamentals must be given emphasis.
6. No money available for planning.
7. Only part-time counselor and school psychologist available.
8. Skills in all subjects must be maintained.

Performance Requirements:

1. By June 30, 1974, all students will have had oral evaluation of standardized tests by teacher and/or counselor. (determined by external audit)
2. By June 30, 1974, parents of at least 95% of the students will have had four parent-teacher conferences (log kept for inspection)
3. By June 30, 1974, not less than 80% of the students will show that they understand where they stand, their progress, and their direction as evidenced by teacher interviews and student checklists.
4. By June 30, 1974, at least 95% of the students who have attended the school since its inception will know where they stand, what progress they have made, and what they want to achieve as evidenced by teacher interviews and student checklists. Not less than 90% of those who have attended for two years will meet these criteria and 80% of those who have been in the school one year will meet these criteria.

5. By June 30, 1974, at least 90% of the parents will have had conferences with teacher and student to discuss the student's progress, standing, and goals (as measured by a log kept at the school)
6. Not less than 95% of the students will have been tested at least annually and had test results discussed with them so that they understood their weaknesses and strengths, (to be measured by an interview of a sampling of students)

Mission Objective:

By June 30, 1974, with no more than the commensurate share of the regular budget and special project funds, at least 95% of the students attending the full three years will have been tested annually in all subject areas: The results discussed with them and their parents so that the students know where they stand: Their progress, and their goals as measured by interviews, checklists, and polls.

PROBLEM DEFINITION: KINDERGARTEN READINESS

Need Statement:

The learner needs certain readiness skills upon entering kindergarten.

Problem Statement:

How can learner achieve readiness for school experiences?

Mission:

Provide readiness experiences for pre-school children.

Constraints:

1. Not more than commensurate share of regular budget and special project funds is available for expenditures.
2. The home environment is beyond school control.
3. This need is extremely critical: must be completed by June 30, 1973.

Performance Requirements:

1. Pre-kindergarten students shall, through pre-school testing, be able to succeed at a level which will insure success in kindergarten.
2. At least 95% of all kindergarten pupils entering for the first time are ready for kindergarten experiences, as indicated by early tests.
3. 95% of pupils in kindergarten are prepared to go on to first grade as judged by teacher assessments.
4. Parents of pupils failing pre-school tests will know the areas of weakness in order to prepare their child for kindergarten and will be given help in getting their student ready.
5. At least 85% of pre-kindergarten students with readiness needs will be identified through psychological testing early enough that help may be available to them prior to kindergarten attendance.

Mission Objective:

This program will be completed by June 30, 1973. At that time, at least 95% of all kindergarten pupils will be ready for this experience. All children under the program shall be given a battery of tests prior to kindergarten. At least 95% of the pupils shall be ready for kindergarten and upon completion of kindergarten, not less than 95% shall be ready for first grade.